



09/927075

## Amendment to the Claims

### **Claim 1 (Currently Amended)**

An architecture for Converged Broadband Wireless Communications HARMONIZED BY:

- (1) A converged wireless terminal comprising:
  - a) a block radio-frequency and intermediate-frequency and digital broadband transceiver for converting between the base-band signal and the radio frequency, and
  - b) a block base-band signal and control signal processing engine for processing various wireless algorithms and protocols, and
  - c) a Common Air Interface Basic Input/Output System (CAI-BIOS) for the mapping and controlling of different wireless air-interfaces (wireless standards) to the said broadband transceiver and the said processing engine, and
  - d) a SIM (Smart Integrated Memory) card or Memory Stick for the loading of different air interfaces and their software modules to the said CAI-BIOS
- (2) A Common Access Point (CAP) comprising:
  - a) a block radio-frequency and smart antennas and broadband transceiver for converting between the base-band signal and the radio frequency, and
  - b) a block base-band signal and control signal processing engine for processing various wireless algorithms and protocols, and
  - c) a Common Air Interface Basic Input/Output System (CAI-BIOS) for the mapping and controlling of different wireless air-interfaces (wireless standards) to the said broadband transceiver and the said processing engine, and
  - d) a group of software modules providing various air interfaces (wireless standards) to the said CAI-BIOS, and
  - e) a block network interface unit for connecting to the backbone wireline networks.
- (3) An All-IP (Internet Protocol) Packet Division Multiplex (PDM) backbone or core network comprising:
  - a) Any conventional or future PDM network, or
  - b) Any public or private PDM network.

### **Claim 2 (Currently Amended)**

The architecture for Converged Broadband Wireless Communications of claim 1 wherein: said Common Access Point supports anyvarious network interfaces (for example, Fiber Optic, ATM, Ethernet, Digital Subscriber Line, Cable, etc) to the said PDM backbone network through wireline link; said Common Access Point supports anyvarious air interfaces (for example, GSM (Global System for Mobile Communication)/GPRS (General Packet Radio Service), W-CDMA (Wideband Code Division Multiple Access), UMTS (Universal Mobile Telecommunications Service), IEEE 802.11, 802.15, 802.16 and Wireless Local Loop, etc) to the said converged wireless terminal through wireless air link; said converged wireless terminal supports any said air interfaces to the said common access point through wireless air link.

### **Claim 3 (Original)**

The architecture for Converged Broadband Wireless Communications of claim 1 wherein:

said converged wireless terminal and said common access point are all open function units and can be reconfigurable, programmable and software definable; said converged wireless terminal and said common access point can automatically or manually run in any of the said air interfaces subject to the service availability; said common access point can automatically or manually run in any of the said network interfaces subject to the service availability.

**Claim 4 (Original)**

The architecture for Converged Broadband Wireless Communications of claim 1 wherein: said converged wireless terminal and said common access point are communicating through All-IP end-to-end direct signaling and protocol; said converged wireless terminal and said common access point support integrated services of voice, data and video over All-IP protocol and signaling.

**Claim 5 (Currently Amended)**

The architecture for Converged Broadband Wireless Communications of claim 1 wherein: said CAI-BIOS performs the mapping and controlling between said different air interfaces and the said open base-band/control processing engine, the said broadband transceiver as well as the said radio frequency unit of the said converged wireless terminal and the said common access point; said CAI-BIOS is the key unit of the said converged wireless terminal and the said common access point; said CAI-BIOS provides information on said air interfaces including necessary transmission parameters, modulation parameters, channel parameters, access control parameters, dynamic bandwidth allocation parameters and other specific air interface parameters.

**Claim 6 (Currently Amended)**

The architecture for Converged Broadband Wireless Communications of claim 2 wherein: said air interfaces modules said software modules that provide said air interfaces to said CAI-BIOS in said common access point can be stored in said common access point disks or uploaded from the said PDM backbone networks or uploaded from other remote networks; said air interfaces modules said software modules that provide said air interfaces to said CAI-BIOS in said converged wireless terminal can be loaded in said SIM card or memory stick.

**Claim 7 (Canceled)**

**Claim 8 (Currently Amended)**

A sample product of said the converged broadband wireless terminal CHARACTERIZED BY:

- a) Air Interfaces Options (automatically or manually), and
- b) Security (finger print, etc), and
- c) Information recognition (voice recognition, pattern recognition, etc)
- d) Bandwidth on Demand (Quality of Service Centric)
- e) SIM card or memory stick